Bully Creek Initial Riparian Enhancement Projects
Environmental Assessment No. OR-030-99-033

I. INTRODUCTION, PURPOSE AND NEED

This Environmental Assessment (EA) has been developed to inform the public and the BLM decision maker of the environmental factors involved with implementing certain projects within the Bully Creek watershed which are designed to alleviate livestock grazing pressure from streams and springs and their associated riparian vegetative communities. These projects are also recommended in the Bully Creek Landscape Area Management Project (LAMP) as part of the proposed action. However, to take advantage of available funding in fiscal year 1999, these projects are being proposed for implementation prior to a Record of Decision being signed on the LAMP. The projects have been carefully selected and would benefit riparian resources under any alternative selected in the Bully Creek LAMP (including "No Action"), through improved control of livestock distribution.

CONFORMANCE WITH LAND USE PLANS

The proposed action is consistent with the analysis of significant impacts in several large-scale planning documents: the *Northern Malheur Management Framework Plan* (USDI/BLM 1979); the *Ironside Grazing Management Environmental Impact Statement* (USDI/BLM 1980a, 1980b); the *Rangeland Program Summary* (USDI/BLM 1982); and with the intent and management direction identified in the draft Interior Columbia Basin Ecosystem Management Project (ICBEMP) (USDI/BLM 1997), and the draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) (USDI/BLM 1998). The *Bully Creek Watershed Assessment and Strategy* (BCWC 1997) and the draft *Malheur Basin Watershed Action Plan and Assessment* (MOWC 1998), two documents addressing watershed management activities on private lands within the Bully Creek subbasin, were consulted and referenced during development of the proposed action.

Best Management Practices (BMPs), as described in the draft SEORMP/EIS Appendix O (USDI/BLM 1998b), would be followed for surface-disturbing activities. BMPs are designed to maximize beneficial results and minimize negative impacts of management actions.

Rangeland improvement projects would follow standards and design elements described in the draft SEORMP/EIS Appendix S (USDI/BLM 1998b). Design elements have been standardized over time to mitigate impacts encountered during construction. Specific design features have been developed for spring developments and fences.

II ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. Alternative A - Proposed Action - Initial Riparian Enhancement Projects within the Bully Creek Watershed

The proposed action would be to implement the rangeland improvement project depicted in Table 1. Appendix "A" represents map location of proposed projects.

Table 1. Proposed FY99 Projects within the Bully Creek Landscape Area

Allotment/ Pasture	Project Description	JDR #	Location	Proposed Action	Purpose and Need	Estimated Cost
Priority 1 Lava Ridge/Hay Canyon 10223_01	East-West Allotment/ Pasture Fence	new	T17S, R40E, Sec. 3,10	Construct and maintain approximately1.5 miles of fenceline, running east to west along the southern boundary of the pasture, north of Clover Creek. Off-road use during construction would be minimal and limited to 4 wheelers to transport materials.	Currently, riparian habitats are not properly functioning, in part, due to current grazing season-of-use. This project would help improve the riparian habitat along Clover Creek (on public and private lands) by excluding livestock access from the stream. This project is being coordinated with the Governor's Watershed Enhancement Board (GWEB).	$6,500
Priority 2 Lava Ridge/ West Lava Seeding 10223_03	Ridge Road Reservoir Fence Reconstruction	0144	T17S, R40E, Sec. 26, NWSW	Reconstruct and maintain the existing fence around the reservoir (0.25 mile). Livestock watering would occur from nearby trough (see Projects 2b and 2c). The fence would be constructed to allow wildlife watering from the reservoir.	Remove livestock impacts from reservoir; improve riparian habitat.	$1,500
Richie Flat/South Ridge 10214_01	2b Spring Box and Fence	new		Construct a new spring box and enclose the spring source by fencing an approximate 50x50-yard area around the spring box.	Remove livestock impacts from spring; improve riparian values and wildlife associated with the spring while providing water for livestock.	$8,300
	2c Pipeline and Trough	new		Construct a 0.25 mile pipeline from the spring to a new trough.	Improve livestock distribution in both allotments.	
Priority 3 Brian Creek/ Mountain 10215_01	3a Brian Creek Fence	6314	T16S, R41E, Sec. 5 T17S, R41E, Sec.28, 32, 33	Construct and maintain 3.5 miles of fence, along the ridge to the east of Brian Creek, creating a riparian pasture. The fence would tie into a private boundary fence to the north and another pasture fence to the southwest. This cost-share project (Seeking Common Grounds) would be completed in the fall of 1999.	The riparian habitats along Brian Creek are not properly functioning. By implementing a season-specific time-limited grazing system in the new riparian pasture, these combined actions would help ensure riparian areas along the stream are not impacted during the hot season, and should improve their condition.	$7,400

Allotment/ Pasture	Project Description	JDR #	Location	Proposed Action	Purpose and Need	Estimated Cost
	3b Buckbrush Spring 1 Buckbrush Spring 2	6319 6320	T17S, R41E, Sec. 33, SWNW T17S, R41E, Sec. 33, SENW	Water development at 2 locations (dependent upon funding) would involve collection box and fence construction around the collection box, and associated pipeline and trough construction.	Improve livestock distribution in the pasture and relieve pressure on existing riparian and wetland areas along a tributary of Buckbrush Creek in and around the springs. These projects would provide off site livestock water away from spring, riparian habitat.	$10,700
Priority 4 Buckbrush/ Buckbrush 10218_02	Buckbrush Pasture Division Fence	new	T17S, R41E, Sec. 3	Construct and maintain 2.5 miles of fence along the ridgeline west to east dividing the pasture in half.	The riparian habitat along Buckbrush and Dry Creeks is not properly functioning. This new pasture division fence would allow a shorter duration grazing system and help with better livestock distribution, ensuring riparian habitat improvement.	$11,800
Priority 5 Buckbrush/ Mountain 10218_04	Mountain Pasture DivisionFence	new	T16S, R41E, Sec. 28, 34,35	Construct and maintain 2.5 miles of fence along the ridgeline running north to south dividing the pasture in half.	The riparian habitat along Buckbrush and Dry Creeks is not properly functioning. This new pasture division fence would allow a shorter duration grazing system and help with better livestock distribution, ensuring riparian habitat improvement.	$11,800
Priority 6 Allotment #3 10202_05 10202_02 10202_08	6a Allotment #3 Reservoir Fence Reconstruction *W Cottonwood Sdg (10202_05)*	0808	T19S, R40E, Sec. 12	Reconstruct the existing fence around the reservoir to exclude livestock at low water levels, but continue to allow year-round wildlife watering from the reservoir.	Remove livestock impacts from reservoir, improve riparian and wildlife habitat, and retain recreational fishing opportunities (in Allotment #3 and Pence Spring reservoirs).	$1,500

Allotment/ Pasture	Project Description	JDR #	Location	Proposed Action	Purpose and Need	Estimated Cost
	6b Pence Spring Reservoir Fence Reconstruction *N Black Canyon (10202_02)*	0995	T19S, R40E, Sec. 18, SWSE			$1,500
	Frog Fence S Black Canyon	New	T19S, R40E, Sec 16, 15, 21, 2, 28	Protect existing riparian areas and create a riparian pasture once riparian potential are determined.	Remove livestock impacts from riparian area.	$13,300
	Cottonwood storage Tank	1948	T18S, R41E, Sec 33	Reconstruct storage tank to aid in livestock distribution	Installation of new Storage Tank would aid in livestock distribution	$21,300
	Willow Creek Riparian Fence West &East Cottonwood Seeding	New	T19S, R41E, Sec4,5, 6	Protect existing riparian area and create a riparian pasture for spring use.	Remove livestock from riparian area.	$7,700
Priority 7 Allotment #2/S NG Seeding 10201_05	Bull Springs Pipeline Replacement	0360	T18S, R41E, Sec. 13, NENE T18S, R42E, Sec. 7, SWSW	Two miles of pipeline replacement along the existing route.	Improve livestock distribution.	$23,100
	Rocke Riparian Pasture Fence	New	T17S R42E Sec 33,29, 20	Construct 2.5 miles of fence in North N G Seeding to improve riparian habitat	Combine three nonfunctioning exclosure / holding pastures to make a riparian pasture which will allow short duration use in spring.	$13,000
	NG Pipeline Extension	New	T17S R42E Sec 20, 29	Install 1.5 miles of pipeline in seeding to improve livestock distribution.	Installation of new pipeline would aid in livestock distribution and improve riparian habitat on N G Creek.	$12,200

All fences will be a four-strand barbed-wire fence built to BLM specifications . To allow wildlife passage, the lower wire will be 18 inches from the ground and the top wire will be no higher than 42 inches from the median ground level. There will be no blading along the fence route. Existing roads and ways would be used for access during fence construction and a minimal amount of off-road use would occur along the fence line. Brace points will be constructed with rock cribs located at approximately every 0.25 miles. Five foot fence posts will be placed no greater than 22 feet apart and two stays will be placed between posts.(Appendix B)

A Pipeline extension from Bull Springs Pipeline would carry water approximately 1.5 miles down a existing road to two new trough locations approximately 100 feet of the road. The pipeline will be two inch plastic pipe buried to a depth of approximately twelve inches by using a caterpiller ripper.

Water sources that are developed for the purpose of delivering water into a livestock trough will be developed in a way that instream water flows essentially remain intact. Water will be piped to troughs set away from the riparian/ wetland habitat to avoid trampling damage currently taking place that is associated with livestock watering. The only water that would be lost from the natural system would be lost due to the initial trough filling process and water to maintain trough level. Use of a shut off valve or float valve mechanism will be utilized to control withdraws. Exclosure fencing will accompany spring developments to protect wetland vegetation associated with the water source.

Maintenance of these projects would become the responsibility of grazing permittees in accordance with BLM policy.

The majority of the recommendations developed enable more effective livestock management. For example, allotment and pasture division fencing allows greater control of livestock within critical riparian areas, improves livestock distribution in uplands and seedings to encourage better forage utilization, helps improve overall habitat conditions, and alleviates impacts to sage grouse strutting, nesting, and wintering areas. These projects are designed to specifically benefit riparian resources, but with the development of the Bully Creek LAMP these projects would have broader benefits.

Grazing schedules have been developed for specific allotments within the Bully Creek watershed and are part of the proposed action (Please refer to Appendix C that indicates change from current grazing schedules to proposed grazing schedules once projects are completed). Once approved, these grazing schedules would be implemented beginning in FY2000. To effectively implement the grazing schedules, many of the specific rangeland improvement projects proposed here must be in place and functioning. Therefore, these projects are considered critical to maintaining a grazing program while protecting resources.

B. Alternative B - No Action

The proposed riparian enhancement projects would not be implemented and consequently the Grazing schedules proposed in the LAMP could not be fully implemented in FY2000. Current

management would continue with livestock grazing continuing to deteriorate the condition of riparian resources.

III. AFFECTED ENVIRONMENT

The Bully Creek Landscape Area varies from 2,500 feet in elevation near Bully Creek Reservoir to 6,400 feet on Cottonwood Mountain. The fringe of mountains to the west, including Ironside Mountain and Castle Rock, collects moisture deposited in the form of snow and rain from fall through early spring, resulting in mesic conditions at high elevations. Annual precipitation ranges from 14 inches in the western portion of the landscape area to 8 inches at the eastern edge, reflecting the more arid conditions at low elevations.

Additional information related to the Affected Environment can be found in the draft SEORMP/EIS (USDI/BLM 1998b). The known characteristics of the landscape area are described in this section by specific resource.

Air Quality

Air quality in the landscape area is good (airshed rating is Class II) with prevailing westerly winds. Dust and smoke occasionally impact air quality in the landscape area.

Geology

The landscape area is situated within portions of three physiographic provinces: 1) the Blue Mountain Province in the north and northwest; 2) the Basin and Range Province in the northeast, central, and southern regions; and 3) the Snake River Plain Province in the southeast (Orr et al. 1992).

Energy and mineral resources known or suspected to occur in the landscape area consist of geothermal resources, diatomite, hot-springs gold/mercury, porphyry copper-gold-molybdenum, vein gold, uranium, oil, gas and a variety of mineral materials. At present, there are over 100 mining claims within the landscape area. All have been located for diatomite and are contained in four separate blocks. Active exploration/development is occurring on only one block of claims, the E/B group, which is operating under a current Notice of Operations (less than 5 acres of surface disturbance); at present, only the Bully Creek Seeding/Allotment #2 is affected. Given the past mining history of the landscape area, energy and mineral exploration/development activity is not expected to change significantly in the future.

Soils

Soil information in the landscape area, especially on the higher elevation rangeland, is limited. Soil surveys have focused mainly on irrigable lands (Lovell et al. 1969; Cox and Stoneman 1977; Malheur County Planning Office 1978; Lovell 1980), and a third order survey has yet to be completed. Other planning documents use existing surveys in combination with professional observations to derive soil information for the entire area (Malheur County Planning Office 1981; BCWC et al. 1997; MOWC 1998). Soils in the area have derived mainly from sedimentary deposits and volcanic activity (Lovell et al. 1969). Sedimentary deposits weather into sandy- or fine-textured, highly erosive soils. Volcanic rocks weather into various textured soils including some which are sticky and fine-textured. The arid climate and high silica and calcium carbonate

content of many of the soils creates a cemented and/or indurated layer or hardpan (Soil Survey Staff 1998). Expression and thickness of these hardpans increases with distance from a stream and floodplain. In general, more soil development tends to occur on the uplands than in the floodplains and terraces.

Vegetation

The landscape area lies within the sagebrush steppe vegetative zone within the northernmost fringe of the Owyhee Uplands physiographic province and the southernmost extent of the Blue Mountain physiographic province (Franklin and Dyress l973). A rich mosaic of vegetative types is present within this sagebrush-dominated landscape.

Upland Vegetation Types and Patterns - Identified vegetation types reflect a gradient of climate and soil from arid salt desert and annual grass communities at low elevations near Westfall to mesic, partly forested areas near the headwaters of Bully Creek. The historic inventories, supplemented with on-site observations during the 1998 field season, were used to identify small but important plant communities, such as the squaw apple community within the Droughty Rolling Hills and Droughty North Exposure vegetation types.

A complete list of Vale District plants is on file at the BLM office. The relative amounts and mix of species vary, based on soil type and depth, precipitation and historic use. Upland sites in degraded condition are often characterized by having 1) few to none of the larger native bunch grasses; 2) high densities and cover of big sagebrush, gray rabbitbrush and/or green rabbitbrush; 3) high densities of exotic species such as cheatgrass, bur buttercup, tumble mustard, Russian thistle or whitetop; and 4) Western juniper invasion in more mesic areas.

Riparian and Wetland Vegetation - Inventories were conducted along most major drainages in 1997 and 1998 to locate riparian areas and assess their condition. Stream reaches in recovering or properly functioning condition typically support trees like willow, quaking aspen, cottonwood, and water birch or shrubs like coyote willow, golden currant, mock orange, and wild rose. Properly functioning riparian areas also contain several species of native grasses, sedges, and rushes. Typically, streams have lost or are losing native vegetation, including shrub and aspen communities in high elevations. Some riparian areas are being invaded by noxious weeds and other exotic species, indicating disturbed or nonfunctioning stream systems. A comprehensive list of riparian vegetation found in the landscape area is on file at Vale BLM.

Modified Vegetation Communities - During the 1960's, the BLM initiated the Vale Project which proposed specific treatments for halting range deterioration (Heady and Bartolome,1977). Between 1962-1973 approximately 16,500 acres within the landscape area were sprayed with herbicides to kill sagebrush and release native grasses or were seeded with crested wheatgrass. Sagebrush has reestablished to varying degrees in all crested wheatgrass seedings in the landscape area; however, most of the treated areas still have reduced perennial grass and forb understories. Other modified communities

include high elevation areas where fire suppression has resulted in western juniper expansion onto range sites. Riparian communities have lost many aspen and willow stands. Reason for these losses include the encroachment of western juniper and exotic weeds as a result of heavy grazing by livestock and wildlife, reduced fire frequency and downstream agricultural practices affecting the hydrologic function of streams.

Special Status Plant Species - Few comprehensive plant inventories have been conducted in the landscape area. Several minor inventories were concentrated in the diatomaceous ash deposits between Harper and Westfall. There are two BLM tracking species listed in the Oregon Natural Heritage Program's guide (1997): the ochre-flowered buckwheat and Malheur cryptantha. A new species of groundsel may have been discovered in 1998 in Mesa Pasture of Allotment #2. No proposed or listed threatened or endangered plant species and no federal candidate plant species being considered for listing under the Endangered Species Act have been identified.

Weeds

Although a variety of weeds occur in the landscape area, an extensive inventory has not been conducted to determine the number of species or the extent of weed invasion. Many annual weeds have become naturalized in the landscape area and are beyond the scope of any control effort. Russian and spotted knapweed are the species with the highest priority for control known to occur in the area. Russian knapweed is well established near Hanna Station and Becker Ranch and is radiating along the network of secondary roads. Small isolated sites with spotted knapweed have been found along the road system from Sheep Rock Springs to Puckett Creek and along South Bully Creek Road. Whitetop is considered a low priority noxious weed due to its abundance; however, it is controlled when found in isolated spots within previously non-infested areas. This species is well established in riparian and upland sites at all elevations, especially around ranches and old homesteads. Noxious weed management guidelines are found in various environmental documents and statewide strategies (USDI/BLM 1985, 1987, 1989, 1994).

Hydrology

Drainages in the upper elevations of the landscape area are characterized by steep mountainous side slopes, narrow canyons and high gradient streams. Low elevations are characterized by rolling hills, broad alluvial bottoms and low gradient streams. Of the 940 estimated perennial, intermittent and ephemeral stream miles in the landscape area, 535 miles (57 percent) occur on public lands.

Stream flows, water quality and bank stability have been substantially modified due to a combination of factors such as fire suppression, roads, livestock, wildlife and non-native plant invasions. The lack of riparian vegetation and bank stability prevents stream systems from functioning properly and creates systems that cannot dissipate energy, filter sediment, retain soil-water and/or recharge groundwater. Streams that are not functioning properly continue to unravel, resulting in increases of water temperatures and soil erosion while decreasing vegetative productivity, habitat and water quality.

Two major peak flows from snowmelt occur between February and April generally with the first

peak flow larger but of shorter duration than the second. There are frequent summer peak flows that occur in direct response to scattered summer storms. Properly functioning streambank vegetation and stream channel characteristics are important in controlling these peak flows. High flows within streams that are not properly functioning can lead to channel incision, bank deterioration, sediment transport and increased peak flows. Many of the streams are incised as a result of the loss of soil, riparian vegetation and stream channel characteristics which have lessened the ability of the floodplain to store water.

Decreased watershed flows during mid-to-late summer can generally be attributed to climatic conditions, historic lowering of the alluvial water tables, irrigation diversions, stream bank deterioration and removal and continued absence of riparian vegetation. The main limiting factor for lower summer flows is reduced water storage in alluvial bottoms throughout the entire system. Reduced storage occurs in all drainages that can be characterized as containing deeply incised stream channels, floodplains and stream terraces which are discontinuous and unstable and where xeric vegetation has encroached upon subirrigated valley bottoms.

Water Quality

All waters within the landscape area that originate on public lands eventually flow through private lands before entering the Snake River. The quantity of water generated on public lands is limited by annual precipitation, but the utility of what collects can be improved by land management practices. Water quality/quantity is expected to improve as upland and riparian ecosystems improve.

Long-term water quality data are sparse for the entire landscape area. Severe water quality resulting from non-point source pollution has been identified in Bully Creek from Westfall to the Bully Creek Reservoir, and Pole Creek (Oregon Statewide Assessment of Nonpoint Sources of Water Pollution Report, 1988) (Refer to Table 4). This rating impacts the beneficial uses determined for this area; specifically water quality, fisheries, aquatic habitat, and water contact recreation. Although water quality impacts have been identified for only two stream segments, other streams in the landscape area exhibit all or many of the same non-point source pollution problems.

Table 4. Non-point Source Pollution Problems, Probable Causes and Identified Uses

Non-point Source Pollution Problems	Probable Causes	Identified Uses Resulting in Probable Causes
Excessive levels of nutrient loading, turbidity, sediment, and streambank erosion. Decreased levels of dissolved oxygen and stream flow. Insufficient stream structure.	-Surface erosion. -Decreased surface permeability. -Elimination of thermal cover along streams. -Structures on shores and streambanks. -Human or animal traffic (roads and trails). -Decline in alluvial water. -Changes in stream flow patterns.	General Uses: water withdrawal, base flow depletion, reservoir storage, physical alterations of the channel (channelization and/or wetland drainage), pumping of aquifers, bank filling and dredging, and placement of instream structures.
		Waste Disposal & Chemical Use: chemical application and irrigation return flows.
		Land Uses: livestock grazing, irrigated agriculture, and residential & commercial construction.

Wildlife Species and Habitat

Common wildlife species within the landscape area include mule deer, pronghorn, elk, black-tailed jackrabbits, sage grouse, meadow larks, red-tailed hawks and barn swallows. BLM's management of wildlife species focuses on habitat needs and conditions. Many habitat types within the landscape area were severely impacted by historic activities such as livestock grazing, agricultural clearing, reservoirs, roads, and fire management. Some wildlife habitats are still being disrupted or diminished by ongoing activities. When this happens, as is currently the case with diminished winter big game habitat, mule deer and elk move off public lands onto private agricultural property, resulting in economic losses to land owners.

Special Status Animals - Special Status species are given priority consideration in BLM management decisions. BLM is required by law to manage lands to recover populations of species listed as endangered or threatened and to manage all species to avoid the need for future listing under the Endangered Species Act.

Columbia spotted frogs, a federal Candidate species, are present in the upper part of several riparian areas. They require special habitat conditions such as deep perennial pools and either abundant emergent vegetation or floating algae mats. Bald eagles, a federal endangered species, regularly winter at Bully Creek Reservoir and along the lower sections of Bully Creek. Generally, they require large trees or high cliffs for roosting, a population of either waterfowl or medium-sized fish for food and freedom from frequent disturbances.

Due to long-term population declines in sage grouse numbers across the West the need for additional federal protection of this species currently is being reviewed. Published studies have documented the need by nesting sage grouse for tall, standing grass under thick sagebrush to reduce predation. Female sage grouse will travel up to 10 miles from leks, and only about half the hens nest within five miles of breeding sites in some populations. The need for tall grass and thick sagebrush apparently declines during the later portions of the brood rearing period. During winter sage grouse feed exclusively on sagebrush leaves and depend on tall sagebrush for protection from winter weather and predators. The BLM applies the Western States Sage Grouse Guidelines (1974, 1982) to activities that could affect sage grouse habitat.

Fisheries and Aquatic Habitat

There are 940 miles of stream (535 miles occur on public land) and 95 surface acres of reservoir, some of which provides fisheries habitat in the landscape area. These habitats support eight native fish species and several introduced non-native fishes. ODFW periodically stocks a coastal strain of hatchery rainbow trout into five BLM reservoirs (Allotment #3, Peavine, Pence Spring, South Cottonwood, and South Mountain) and occasionally Bully Creek Reservoir. Warmwater species such as bass, sunfish, and catfish have become established in Bully Creek Reservoir and probably in streams near the reservoir, as a result of past stocking efforts. A complete list of native and non-native fish species known to occur within the landscape area is on file in the Vale District office.

Current distribution of stream fish in the landscape area is primarily influenced by summer water temperatures and flow levels. Maximum water temperatures are significantly higher in

downstream areas than at the headwaters and, consequently, cold water species such as redband trout and sculpins are restricted to higher elevations in summer. Several factors contribute to high stream temperatures: (1) summer flows can be extremely low or intermittent, and low water volumes heat up easily; (2) irrigation diversions can further reduce flow, and water returning from irrigated fields can be warmer than the source stream; and (3) scarcity of riparian canopy increases solar heating. Riparian vegetation not only shades water from hot summer sunlight, but also stores and cools subsurface water by trapping moisture and sediments in its matted root systems.

Bank stability and sediment loads also affect fish distribution. Lack of riparian vegetation has destabilized stream banks, causing accelerated erosion, channel downcutting and increased sedimentation. Fish such as trout and sculpin are intolerant of high sediment levels that bury eggs and suffocate fry.

A fish of special concern in the landscape area is the interior redband trout, the only native game species in the basin. During low flow periods, redband trout are found primarily in headwater areas in fragmented populations. Although this rainbow trout subspecies is adapted to warm, arid rangeland streams, high water temperatures in downstream reaches limit its summer distribution. Redband trout occur in upper Bully Creek, upper Clover Creek, Upper and West Fork Upper Cottonwood creeks, South Fork Indian Creek, Lower Cottonwood Creek, and possibly Reds Creek. Genetic analysis of Lower Cottonwood and South Fork Indian Creek trout indicates that hybridization with hatchery rainbow trout has occurred in these two populations (Currens 1994). Although most wild trout in Bully Creek basin exhibit the morphological and physiological characteristics of interior redband trout, it is likely that "pure" redband populations no longer exist in the basin.

Other dominant native fishes in Bully Creek basin include speckled and longnose dace, bridgelip sucker, and redside shiner. Because these are warmwater species and tolerate a range of stream temperatures and turbidities, they are abundant in mainstem reaches and streams lower in the basin and overlap with redband trout and sculpin in some headwater areas. Currently, there are no management concerns with these fishes.

Streams, reservoirs and wetlands in the area provide habitat for a diversity of aquatic organisms. Amphibians are especially vulnerable to habitat degradation and can be impacted by loss of riparian vegetation, reduced flows, and the presence of exotic predators such as non-native fish or bullfrogs. Three native amphibians in this landscape area are listed as sensitive species (Appendix A, Tables 6 and 8).

Grazing Use, Schedules and Existing Rangeland Improvement Projects

Grazing is the predominant land use within the landscape area. Of the 20 allotments, nine are in the I (Improve) category, three are in the M (Maintain) category and eight are in the C (Custodial) category. The 20 allotments contain 108 pastures**.** These categories are designed to concentrate public funds and management efforts on allotments with the most significant resource conflicts and the greatest potential for improvement. *The Ironside Environmental Impact Statement and Rangeland Program Summary* (USDI/BLM 1980a, 1980b, 1982) described

proposed grazing systems for all I and M allotments. These systems were developed and implemented through an AMP or turnout meetings without a formal grazing schedule and subsequent permit or lease, in coordination with permittees and other concerned parties. Existing AMPs not only describe a grazing schedule, but specific allotment and/or pasture specific objectives and any rangeland improvement projects necessary to fully implement the AMP to meet resource management objectives.

Table 5. Grazing Allotments and Other Lands

Allotment Number	Allotment Name	Number of Pastures	Category [1]	Acres PL [2]	Acres PV [3]	Acres BR [4]	Acres ST [5]	Total Acres
00113	Boston Horse Camp	1	C	707	1,420			2,127
00132	Bully Creek	1	M	5,095	7,281	483		12,859
00134	Juniper Mountain	1	C	788	2,262			3,050
00144	Cow Creek	1	C	2,851	4,766			7,617
00227	Westfall	1	M	1,673	4,943			6,616
00228	Scratch Post Butte	1	C	1,012	8,542		158	9,712
00244	Post Creek Individual	1	C	816	4,292			5,108
10140	Cottonwood Creek	1	I	738	623			1,361
10141	Ferriers Gulch	1	C	354	4,232			4,586
10201	Allotment #2	20	I	48,500	7,665	371		56,536
10202	Allotment #3	30	I	77,694	15,117		94	92,905
10205	Rail Canyon	10	I	22,639	3,879			26,518
10210	Clover Creek Individual	1	C	3,459	12,937			16,396
10213	West Clover Creek	1	C	2,713	7,520			10,233
10214	Richie Flat	7	I	17,506	2,233			19,739

Allotment Number	Allotment Name	Number of Pastures	Category [1]	Acres PL [2]	Acres PV [3]	Acres BR [4]	Acres ST [5]	Total Acres
10215	Brian Creek	4	I	4,817	91			4,908
10218	Buckbrush	7	I	20,067	949			21,016
10222	Willow Basin	11	I	43,455	6,542			49,997
10223	Lava Ridge	6	I	11,069	1,224			12,293
20104	West Bench	2	M	626				626
	Acreage outside allotments			2,244	19,273		618	22,135
Totals:	20 Allotments	108		268,823	115,791	854	870	386,338

[1] Category of allotment management - C (Custodial), I (Improve), M (Maintain)
[2] Public land
[3] Private lands
[4] Bureau of Reclamation lands
[5] State lands

Recreation and Visual Resources

There are no developed recreation facilities on public lands within the landscape area. Dispersed hunting and associated motorized vehicle-supported camping are the primary recreation activities. The habitat types in the landscape area support wildlife populations which receive some of the greatest hunting pressures within Malheur Resource Area. Other activities include driving for leisure, photography, wildlife observation and rockhounding. Much of the nominal recreational off-road vehicle driving is incidental to hunting activities.

The Federal Land Policy and Management Act (FLPMA) of 1976 requires the BLM to consider the effects of management actions on the visual quality of the landscape. Public lands are inventoried and assigned a Visual Resource Management (VRM) class according to the relative value of the visual resources. Public lands in the landscape area are currently classified as VRM Class II within the Beaver Dam Creek Wilderness Study Area (WSA) and South Fork Indian Creek study stream for the Wild and Scenic River System (WSRS) (USDI/BLM 1998b). The remainder of the landscape area is classified as VRM Class III and IV. The upper and the lower-most reaches of the landscape area have the highest levels of visual sensitivity.

Special Management Areas

While the Beaver Dam Creek Wilderness Study Area (WSA), the proposed North Ridge Bully Creek Area of Critical Environmental Concern/Research Natural Area (ACEC/RNA), the proposed South Ridge Bully Creek ACEC/RNA, and a two-mile study segment of South Fork

Indian Creek Wild and Scenic River System (WSRS) are all special management areas within the landscape area, none of the proposed projects would occur within or affect values associated with these areas.

Socio-Economic Values

Public lands in the landscape area are managed for a wide array of social and economic benefits for local, regional and national publics. Within the landscape area, livestock forage has a high economic value. Public lands produce forage supporting approximately 43,000 animal unit months (AUMs) of active use and 5,000 AUMs of suspended use. As of 1994, the active AUMs supported 3.6 percent or approximately 5,100 beef cattle of the estimated 170,000 beef cattle in Malheur County (USDI/BLM 1998b). Livestock sales generated an estimated $1.8 million dollars of the $50.3 million dollars in Malheur County. The BLM recognizes the importance of custom and culture and the need to balance these values while ensuring the sustainability of multiple resources.

Water production, storage and transport are important functions of the landscape area for ecosystem health and for local water users with an average of 38,800 acre feet of water produced per year (BCWC et al. 1997). Within the landscape area public lands comprise about 70 percent (268,800 acres of the total 386,300 acres) of the land mass and a corresponding amount of the water generated each year. Several thousand acres of irrigated farm and pasture lands are located in the landscape area and are supported by flood irrigation, wells or small reservoirs.

Recreation opportunities (hunting, fishing, dispersed camping and various other day-use activities) are important locally and regionally. These kinds of recreational opportunities are not unique to the Bully Creek landscape area although the area provides a relatively uncrowded place to enjoy them. The primary users come from local communities but regional visitors, especially those from the Boise area and the Willamette Valley, are increasing.

Cultural Resources

Prehistoric - Cultural resources associated with the prehistoric use of the landscape area consists of rock art, rock shelters, rock structures (cairns, alignments etc.), habitation sites around springs, small camps at stream-side meadows and on alluvial deposits at junctions of tributary streams, quarries of fine-grained basalt, obsidian, chalcedony and jasper, flaking stations on high points with good vantage and sacred sites.

Historic - Cultural resources associated with the historic use of this area are tied to landforms as transportation corridors: wagon roads, historic homesteads, early irrigation project features, early mining activity areas and remains of stage and telegraph stations.

Other- The Following critical elements of the environment are either not affected by the proposal and alternative or are not present.

1. Prime or Unique Farmland- Not present
2. Native American Religious Concerns
3. Floodplains

4. Environmental Justice

IV. ENVIRONMENTAL CONSEQUENCES

This section analyzes the potential beneficial and adverse environmental direct, indirect and cumulative impacts to resources by implementing any one of the two alternatives. This chapter is arranged by resources with each alternative discussed under each resource value. Impacts are projected to be short-term (0-10 years) and long-term (10-20 years).

Air Resources

Alternative A (Proposed Action) - The airshed rating in the landscape area is Class II *(Clean Air Act as amended 1990)*. No direct or indirect impacts are anticipated from implementation of the proposed projects.

Alternative B Under this alternative, the direct and indirect impacts would be the same as the Alternative A (Proposed Action).

Geology, Energy and Mineral Resources

All Alternatives -None of the alternatives propose to restrict opportunities for energy and mineral exploration and development in the landscape area. There would no impact to these activities.

Soils

Alternative A (Proposed Action) - Implementation of the projects in the proposed action is expected to have short-term localized impacts to soils (erosion) due to soil and vegetation disturbance in the immediate area. Long-term impacts would be positive to soil conditions as desired vegetation begins to reestablish and provide protection. Soil-water storage would improve with the reestablishment of native grasses in the uplands and soil stabilizing and vegetation in riparian areas protected by these projects. Surface disturbance would be kept to a minimum, and soils would be rehabilitated to blend into surrounding areas. Revegetation would occur as needed, with adapted perennial species to stabilize soils and preclude invasion and dominance of undesirable and weedy species. Existing roads and ways would be used, whenever possible. Any necessary off road travel would be done to minimize impacts to soils and other resources. Where feasible, off-highway vehicles with large, low pressure tires would be used. Traveling through riparian areas would be avoided wherever possible.

Alternative B (No Action) - Under current management strategies, impacts to soils resources would exist as they do at the present time. Soil condition adjacent to streams and springs in the project areas would slowly continue to decline over time. Soil stability and water storage would be reduced, and stream channels would be susceptible to hydrologic events.

Vegetation

Alternative A (Proposed Action)

Impacts to Upland Vegetation

Project development would directly impact and displace vegetative communities in the localized area of the project and cause increased trampling with associated impacts immediately adjacent to projects such as fences and water developments. In the long term project development will

allow for implementation and maintenance of grazing schedules necessary to foster vegetative health and maintenance. Projects excluding livestock from springs sources and allowing better control and distribution of livestock will result in improved plant vigor and increased diversity over time.

Impacts to Riparian Vegetation

The installation of the Frog Riparian Fence, Rocke Fence, Willow Creek Riparian Fence and South Cottonwood Riparian Fence should enhance recovery of riparian areas and aquatic habitats within these areas. Most pastures would be completely rested or would receive spring use for two years out of three.

Hay Canyon Fence, Brian Creek Fence, Buckbrush Pasture Division Fence and Mountain Pasture Division Fence should result in a general improvement by providing management areas where grazing schedules would be implemented which are consistent with maintenance and improvement of riparian resource values.

Reconstruction or maintenance of exclosures of Pence Reservoir, and Allotment #3 Reservoir to allow for a new water-gap to exclude livestock grazing on the rest of the exclosure would result in the improvement of the riparian vegetation.
Reconstruction of Lower Pole Creek Spring in Allotment #3 and the development of 2 water sources in Brian Creek Allotment and installing exclosures would result in improvement in riparian vegetation due to less livestock use and trampling in the riparian areas.

Expected recovery of riparian communities is as follows: Short term improvement in cover of forbs and perennial grass species including Kentucky bluegrass and red top would occur with limitations set on summer and fall grazing of riparian communities. Establishment and increased dominance of stream bank stabilizing sedges and rushes would occur in the mid term as long as hot season use and unauthorized grazing does not occur. Long term- dominance of late seral sedges and rushes would result; their extensive root systems would stabilize streambank.

Browsing on woody species would be reduced this would improve survival of the seedlings and suckers of riparian shrub species and desirable tree species including aspens, willows, birch, and cottonwoods. Where potential exists, multi-aged shrub and deciduous tree composition within riparian vegetation communities would result, providing structural diversity and perpetuating the physical and biotic benefits of long-lived riparian woody species. Occupation of more of the soil profile with roots would further stabilize stream banks.

Coarse above-ground growth provided by herbaceous and woody species would provide increased streambank and floodplain roughness and reduce the energy within the stream, thus stabilizing streambanks while holding water on site longer and recharging the aquifer. Sediment loads carried by the stream would be allowed time to settle building banks and providing seed-beds for further development of riparian species. Aquifer recharge, coupled with stream shading provided primarily by woody species together with overhanging banks, would extend stream flow through the year. As a result of the sponge action of functioning riparian communities, the extremes of high spring flow and downstream flooding would be minimized, while sustained flows

during late summer are maintained when groundwater held in riparian communities reenters the stream channel. Stream channel width to depth ratios would be reduced as a result of greater stabilization of the soil profile by woody and herbaceous roots, this would also reduce the water surface area subject to solar radiation and subsequently lower water temperatures.

Impacts to Special Status Plants
The two special status plant species, ochre-flowered buckwheat and Malheur cryptantha, are located on diatomaceous ash deposits in the subbasin. There would be no anticipated impacts to the two plant species from the proposed projects.

Impacts to Aspen
The proposed projects themselves are expected to have little impact to aspen, either beneficial or negative. While some aspen may become established over time in areas where livestock will be restricted by project implementation, significant improvements will require more intensive management actions such as prescribed fire or other treatments. Once these more intensive management actions are conducted, the proposed projects could aid in overall recovery and future protection of aspen communities.

Alternative B (No Action)

Impacts to Upland Vegetation
There would be little change in those areas that are currently stable. Areas showing upward trends would continue to improve with favorable climatic conditions. Those areas with downward trends would continue to decline until adjustments would be made to management practices.

Impacts to Riparian Vegetation
Implementation of this alternative would likely maintain the current trend of riparian vegetation communities. Protection of specific streams and springs and associated riparian communities would not occur, and without significant changes in grazing management, declines in overall condition would be expected over the long-term.

Impacts to Special Status Plants
There would be no anticipated impacts to the two plant species from the selection of this alternative.

Impacts to Aspen
Under current management, aspen health would continue to decline over the long-term.

Weeds/Invasive, Nonnative Species
Alternative A (Proposed Action) - The proposed action would disturb soils in the immediate area of construction, however, rehabilitation and efforts to control noxious weeds are expected to minimize the chance of weeds becoming established as a result of the proposed action.

Alternative B (No Action) - No additional threat of weeds would occur as a result of selecting this alternative.

Hydrology and Water Quality

Alternative A (Proposed Action) -

Implementation of the proposed action would improve water quality through increased health of uplands and riparian areas. Grazing management strategies, including construction of pasture division fences to create riparian pastures and developing water sources outside of riparian corridors would increase vegetation and soil stability which contribute directly to water quality. Restricting livestock use of riparian areas would also decrease coliform input and erosion due to hoof action.

In areas directly protected by the proposed projects, the hydrologic function and water quality of streams is expected to improve over current levels in both the short- and long-term. Minor short-term negative impacts to surface water quality would result from construction of projects. Fences aimed at lessening grazing impacts to riparian areas would increase riparian vegetation communities positively influencing water quality and hydrology.

Channel stability would improve due to livestock watering sources being provided away from spring sources and stream channels where livestock are currently watering. The development of these water sources is not expected to have significant short term impacts to stream flows. Water flows would remain essentially intact as the only water that would be lost from the natural systems would be from the initial filling process and water to maintain trough levels. Stream flows and water quality would be enhanced in the long term due to a decrease in livestock impacts to riparian vegetation and stream channels.

Alternative B (No Action) -

Implementation of this alternative would likely maintain the current condition and trend of hydrologic function and water quality. Protection of specific streams and springs and associated riparian communities would not occur and without significant changes in grazing management, declines in overall condition would be expected over the long-term.

Fisheries:

Alternative A (Proposed Action): Within the area protected by the proposed projects, short-term aquatic habitat conditions along all streams would show slight to moderate improvement due to changes in livestock control and distribution and projects that reduced livestock impacts to riparian areas. Most fish habitat improvement would be due to increased riparian vegetation, shading along streams, and the stabilization of streambanks. Slight water quality improvement would occur as increased upland vegetation and litter reduced silt transport from upland areas.

Long-term improvements in fish habitat would be moderate, as woody riparian vegetation grew taller and provided more shade than currently exists. Increased herbaceous vegetation and litter would decrease silt input to streams.

Alternative B (No Action): Implementation of this alternative would likely maintain the current unsatisfactory fish habitat condition. Protection of specific streams and springs and associated riparian communities would not occur and without significant changes in grazing management, declines in overall condition would be expected over the long-term.

Wildlife

Alternative A (Proposed Action): Riparian communities have been identified as important wildlife habitat areas. Improved livestock management in riparian areas would result in moderate wildlife habitat improvement in the short and long terms due to increased woody vegetation and longer availability of surface water in some drainages.

Proposed fencing would not directly affect wildlife since Bureau fencing standards would be followed. Other construction projects would have little effect on wildlife habitat at the time of construction. Where new water projects concentrate livestock in areas not previously grazed, a moderate loss of habitat for song birds and some small mammals would occur. Mule deer and pronghorn would be able to travel through impacted areas and would slightly benefit from additional water sources. As riparian areas improve in overall vegetative diversity and density, numerous wildlife species would benefit from additional structure and cover.

Alternative B (No Action): Implementation of this alternative would likely maintain the current trend of riparian vegetation communities. Protection of specific streams and springs and associated riparian communities would not occur and without significant changes in grazing intensity, declines in overall condition would be expected over the long-term. As a result, riparian areas currently not properly functioning or in upward trend would not provide habitat for wildlife and continued lose of valuable wildlife habitat would result over time.

Special Status Species

Alternative A (Proposed Action): Special status species include riparian/aquatic (Northern bald eagle, Columbia spotted frog, and redband trout) and upland species (Western sage grouse and Northern goshawk). Effects on special status wildlife and fish dependent on riparian/aquatic habitat would be similar to the effects on fisheries and wildlife in both the short and long terms. The proposed projects would improve riparian and upland vegetation increasing the quality of water. Improved water quality and quantities would provide slight to moderate improvements in habitat for spotted frogs, redband trout, and bald eagles in the short term and moderate improvement in the long term.

Sage grouse and goshawk would see little to no benefit from the proposed projects. In those upland areas where vegetative improvements are expected, sage grouse may benefit locally, but the benefit to the population over all would be slight due to the relatively small area of expected improvement.

Alternative B (No Action): Implementation of the no action alternative would maintain current habitat conditions for special status species. Riparian areas in unsatisfactory condition or in a downward trend would continue to not meet special status species needs.

Rangeland/Grazing Use

Alternative A (Proposed Action) - The proposed action would provide additional water sources for livestock while improving distribution benefitting rangeland resources within specific locations. However, grazing use would generally be unaffected by implementation of the proposed projects in the short-term. There would be no change in active grazing use. In the long-term, permittees

may benefit slightly from improved water quality, reduced sedimentation, dissipated hydrologic energy,- and moderated stream flows.

Alternative B (No Action) - There would be no immediate impact to permittees in the short-term. However, unless some grazing management system can be developed, eventually livestock would have to be excluded from riparian areas, potentially reducing the active preference of permittees.

Recreation and Visual Resources

Alternative A (Proposed Action) - The development of 19 miles of livestock fences would have an insignificant impact on dispersed recreation activities such as hunting, hiking, and wildlife observation. Within areas of the watershed with an open off-highway vehicle (OHV) use designation, the additional fence placements would result in a slightly increased but insignificant hindrance to recreation use. There would be no apparent impact on existing or projected dispersed recreation activities caused by other proposed structural rangeland facilities within the landscape area.

The proposed actions would meet visual resource management (VRM) objectives. Cumulatively, construction of new structural rangeland facilities would result in a relatively small degree of visually altered change of the landscape area. as a whole. Visual quality would be enhanced by actions which improve natural resource and habitat conditions.

Alternative B (No Use) - Dispersed recreation uses and opportunities would remain available.

Special Management Areas - Wilderness Study Areas, ACEC/RNAs, Wild& Scenic Rivers

Alternative A (Proposed Action) - None of the proposed projects would occur within or affect values associated with these areas.

Alternative B (No Action) - No effect associated with these areas.

Socio-Economic Values

Alternative A (Proposed Action) - Under the proposed action, there would be no expected change in the socio-economic values of the landscape area.

Alternative B (No Action) - Under this alternative, there would be no change in the socio-economic values within the landscape area.

Cultural Resources

Alternative A (Proposed Action) - The management proposed for riparian areas to improve water quality and aquatic habitat while reducing soil erosion would benefit cultural resources. Establishing riparian buffer zones and restricting livestock grazing along streams would also maintain cultural site conditions. Livestock congregation and trampling around streambanks and springs has the potential to adversely impact cultural resources.

Surveys would be conducted to locate any unknown resources, and potential impacts would be mitigated by avoidance, prior to surface disturbance.

Alternative B (No Action) -The impacts to cultural resources under this alternative would continue as at present.

Paleontology

Alternative A (Proposed Action)

No systematic paleontological inventories have been conducted within the Bully Creek Landscape Area for fossil flora and fauna. Prior to any project construction, surveys for fossil resources would be conducted to locate any unknown resources and potential impacts would be mitigated.

Alternative B (No Action) - No anticipated impacts

Cumulative Impacts

Alternative A (Proposed Action) - Projects proposed under this alternative would be consistent with the intent and direction described in the draft SEORMP/EIS. Impacts resulting from the implementation of these proposed projects are slight overall and largely beneficial to the natural resource values most directly involved. Generally, these projects are important for future management actions and would have broader landscape wide impacts if implemented. The proposed projects themselves are simple and make no long-term commitment of resources. While local water resources and associated riparian areas would benefit from protective fencing, the exclusion areas and riparian pastures are relatively small, so benefits would be modest when viewed from the landscape perspective. There are no impacts expected to the local economy

Alternative B (No Action) - Expected impacts resulting from selection of this alternative is a slow continual decline in soil stability, water quality, the function of riparian ecosystems, and wildlife and fishery habitat condition resulting from current and historic land use activities. This is typical of the landscape area as a whole.

Unavoidable Adverse Effects

Alternative A (Proposed Action) Short-term disturbance of soil and vegetation in the immediate area of construction of the proposed projects. No long-term impacts are expected.

Alternative B (No Action) None

Relationship of Short-Term and Long-Term Productivity

Alternative A (Proposed Action) - Productivity (both short and long-term) will be enhanced with the implementation of the proposed projects within the immediate area of project influence.

Alternative B (No Action) - Productivity will slowly decline over the long-term consistent with the remainder of the landscape area.

Irreversible and Irretrievable Commitments of Resources

Alternative A (Proposed Action) None

Alternative B (No Action) None

Impact Summary

Alternative A (Proposed Action) - Fencing of some riparian areas would minimize the acreage where livestock management is constrained by riparian objectives. Actions which may contribute to AUMs reduction and decrease management flexibility include restriction or exclusion of livestock to meet objectives within pastures not currently managed for riparian values; and revisions to grazing schedules to meet objectives in pastures.

Alternative B (No Action) -None

V. List of Preparers

Bob Alward - Recreation, Wild & Scenic Rivers, Wilderness Study Areas
Al Bammann - Wildlife, Special Status Animals
Cynthia Tait - Fisheries, Special Status Species
Jean Findley - Botany, Vegetation, Special Status Plants, ACEC/ RNAs
Lynne Silva - Weeds
Shaney Rockefeller - Hydrology, Soils, Riparian/Wetland Areas
Ron Rembowski - Range Management
Steve Christensen - Range Management
Randy Eyre - Range Management
Kahne Jensen - Range Management
Jon Freeman - Lands, Realty
Bill Holsheimer - Geology, Minerals
Diane Pritchard - Cultural Resource Management
Tom Dabbs- Multiple Resources Supervisor

Literature Cited

USDA/Forest Service. 1996a. Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin. USDA, Forest Service General technical Report PNW-GTR-382. Portland, OR. 303 p.

USDA/Forest Service. 1996b. Status of the Interior Columbia Basin, Summary of Scientific Findings. USDA, Forest Service General technical Report PNW-GTR-385. Portland, OR. 144 p.

USDA/Forest Service; USDI/BLM. 1997. Interior Columbia Basin Ecosystem Management Project Eastside draft Environmental Impact Statement. Walla Walla, WA.

USDI/BLM. 1977. Ironside Ecosite Inventory in preparation for the Ironside Environmental Impact Statement (RPS - 1982). Vale District. Vale, OR.

Heady, Harold F, and Bartolome, James, 1977. The Vale Rangeland Rehabilitation Program The desert Repaired in Southeastern Oregon. Resource Bulletin PNW-70. Pacific Northwest Forest & Range Experiment Station. USDA. Portland, Oregon. 139 p.

_____. 1979. Northern Malheur Management Framework Plan. Vale District, BLM. Vale, OR

_____. 1980a. Draft Ironside Grazing Management Environmental Impact Statement. Oregon State Office (portions of the Vale and Baker Resource Areas). Portland, OR.

_____. 1980b. Final Ironside Grazing Management Environmental Impact Statement. Oregon State Office (portions of the Vale and Baker Resource Areas). Portland, OR.

_____. 1982. Rangeland Program Summary (RPS), Record of Decision for the Ironside EIS Area, Vale District. Vale, OR.

_____. 1983. Vale District Monitoring Plan. Vale District Office, Vale, Oregon. April 1983.

_____. 1987. Northwest Area Noxious Weed Control Program EIS (December 1985) and Supplement (March 1987).

_____. 1989. Oregon Wilderness Final Environmental Impact Statement.

_____. 1991. Oregon Wilderness Study Report.

_____. 1994a. Environmental Assessment (OR-030-89-19) and Decision Record for the Noxious Weed Control Program 1994 - 1998, Vale District, June 1994.

_____. 1994b. Noxious Weed Strategy for Oregon-Washington. Oregon State Office, August 1994.

_____. 1994c. The Use of Aerial Photography to Manage Riparian-Wetland Areas. Technical Reference (TR) 1737-10. Service Center (SC-657B). Denver, CO.

_____. 1995. Interim Management Policy for Lands Under Wilderness Review (IMP). BLM Manual Handbook H-8550-1. July 7, 1995.

_____. 1997. Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington. Oregon State Office, Portland, OR. June 1997.

_____. 1998a. Willow Creek, Bully Creek, Lower Malheur River Subbasin Review. Vale District, Malheur Resource Area, Vale, OR. February 1998.

_____. 1998b. Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement, Volumes 1 & 2. (SEORMP/EIS). Vale District. Vale, OR. October 1998.

Appendix C

Grazing Schedule **Allotment #2**

Pasture	Current Grazing Schedule			Proposed Grazing Schedule		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Mesa Brush Control	5/1-6/30	9/15-10/31	5/1-6/15	7/15-10/31	5/1-7/1	7/1-9/1
Harper Seeding	5/1-6/30	9/15-10/31	5/1-6/1/5	7/15-10/31	5/1-7/1	7/1-9/1
North Bully Creek	4/15-5/15	4/15-5/15	4/15-5/15	4/1-5/15	4/1-5/1	5/1-7/1
Wildhorse	5/16-6/30	10/1-10/15	5/16-6/15	7/15-10/31	5/1-7/1	7/1-8/15
South NG Seeding	9/1-10/31	5/1-6/30	9/1-10/31	7/15-10/30	7/1-9/1	5/1-7/1
Bully Creek Seeding	4/1-4/30	4/1-4/30	4/1-4/30	7/15-10/30	7/1-9/1	4/1-5/1
North NG Seeding *	10/1-10/15	5/16-7/1	10/1-10/15	4/1-5/15	4/1-5/1	5/1-7/1
Mountain	7/1-9/30	7/1-10/15	6/16-9/30	5/15-7/15	9/1-10/31	9/1-10/31
Holding	4/1-4/30	4/1-4/30	4/1-4/30	4/1-5/15	7/1-9/1	4/1-5/1
Dry Creek	4/1-4/30	4/1-4/30	4/1-4/30	4/1-5/15	/1-9/1	4/1-5/1
Rocke Pasture	ND	ND	ND	4/15-5/15	4/15-5/15	4/15-5/1

* Part of N. G. Seeding will become Rocke Pasture

Grazing Schedule **Allotment #3**

Pasture	Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Jones	7/1-10/31	7/1-10/31	7/1-10/31	7/1-10/31	7/1-10/31	7/1-10/31
North Black Canyon	4/1-4/30	6/15-7/1	REST	REST	5/1-7/1	4/1-5/1
South Black Canyon*	4/1-7/1	REST	5/1-7/1	5/1-7/1	REST	4/1-5/1
Frog Pasture *				Rest	Rest	Rest
East Cottonwood Seeding	REST	4/1-4/30	4/1-4/30	4/1-4/30	4/1-4/30	5/1-7/1
West Cottonwood Seeding	7/15-10/31	5/1-6/15	4/1-4/30	4/1-4/30	4/1-4/30	5/1-7/1
Kelsay Butte	7/15-10/31	7/1-10/31	7/1-10/31	7/16-10/31	7/1-10/31	7/1-10/31
Swamp Creek Seeding	4/1-6/15	REST	3/15-5/15	4/15-5/15	4/1-5/1	5/1-7/1
North Gregory Creek	REST	3/15-6/15	REST	REST	5/1-7/1	4/1-4/30
Indian Creek	7/15-10/31	9/15-10/31	7/15-10/31	7/16-10/31	7/1-10/31	5/1-7/1
South Gregory Creek	4/1-6/15	REST	5/15-7/15	5/15-7/15	REST	7/1-7/31
North Studhorse	6/15-8/1	8/15-10/31	7/15-10/31	7/16-10/31	5/1-7/1	7/1-10/31
South Studhorse	8/1-10/31	7/1-8/15	5/15-7/16	5/15-7/16	7/1-10/31	7/1-10/31
Lower Pole Creek FFR	3/1-4/30	3/15-4/30	4/15-5/15	3/15-4/15	4/15-5/1	5/1-6/1
Upper Pole Creek FFR	FFR	FFR	FFR	5/15-6/1	3/15-4/15	4/15-5/15

Pasture	Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Middle Pole Creek FFR	FFR	FFR	FFR	4/15-5/15	5/15-6/15	3/15-4/15

Buckbrush Allotment

Pasture	Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Buckbrush Seeding	4/1-4/30	4/1-6/30	10/1-10/31	4/1-5/1	4/15-5/15	8/1-8/30
Buckbrush	8/16-10/31	10/1-10/31	4/1-6/30	5/1-6/1 10/1-10/31	7/1-8/30	4/1-6/1
Buckbrush Division Pasture (North)	8/16-10/31	10/1-10/31	4/1-6/30	7/1-7/30	10/1-10/31	6/1-6/30
Turnout	4/1-5/15	4/1-6/30	10/1-10/31	7/1-8/15	10/1-10/31	6/1-6/30
Mountain	5/15-8/15	7/1-9/30	7/1-9/30	5/1-6/31	9/1-9/30	9/1-10/31

Pasture	Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Mountain Division Pasture (North)	5/15-8/15	7/1-9/30	7/1-9/30	8/15-9/30	5/15-6/30	7/1-7/30
Gathering	GATHERING			GATHERING		
Salters/State	8/16-10/31	10/1-10/31	4/1-6/30	8/15-9/30	5/15-6/30	7/1-7/30
Westfall Seeding (00227)	8/16-10/31	10/1-10/31	4/1-6/30	REST	4/1-4/15	REST

Grazing Schedule **Lava Ridge**

Pasture	Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
East Hay Canyon	7/1-10/31	7/1-10/1	7/1-8/1	7/1-10/31	7/1-10/31	4/1-5/1
West Hay Canyon	7/1-10/31	7/1-10/7	7/1-8/1	5/1-7/1	5/1-7/1	REST To PVT: 5/1-7/1
East Lava Seeding	6/1-6/30	7/1-8/1	6/1-7/1	5/2-7/1	4/1-5/1	9/1-10/1
West Lava Seeding	5/1-5/30	6/1-7/1	6/1-7/1	4/1-5/1	5/1-7/1	9/1-10/1
North Bully Creek	7/1-10/31	4/15-6/30	4/15-6/1	4/1-5/1	5/1-7/1	7/1-9/1

Pasture	Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
South Bully Creek	3/20-4/30	3/15-4/30	3/15-4/15	5/2-6/15	4/1-5/1	4/1-5/1

Grazing Schedule **Brian Creek Allotment**

Pasture	Allotment Management Plan Grazing Schedule			Proposed Grazing Schedule		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
North Mountain	8/1-10/31	6/15-10/31	8/1-9/15	4/15-5/15	4/15-5/15	10/1-10/30
South Mountain	8/1-10/31	1 6/15-10/3	8/1-9/15	5/6-7/1	7/15-9/1	9/1-9/30
North NG Seeding	4/1-6/1	10/15-10/31	4/1-6//1	9/1-10/30	9/1-10/30	4/15-7/1
South NG Seeding	10/1-10/31	4/1-6/15	9/15-10/31	9/1-10/30	9/1-10/30	4/15-7/1
True (Private)	6/1-7/31	9/15-10/15	8/1-9/15	7/1-8/1	6/15-7/15	8/1-9/1
Swede (Private)	6/1-7/31	9/15-10/15	6/1-7/31	8/1-9/1	5/16-6/16	7/1-8/1

Finding of No Significant Impact

On the basis of the information contained in this Environmental Assessment (OR-030-99-33) and all other information available, it is my determination that none of the alternatives constitutes a major federal action significantly affecting the quality of the human environment and that an Environmental Impact Statement is not required.

Rationale

Analysis indicates no significant impacts on society as a whole, the affected region, the locality or critical elements of the human environment. The proposed action, along with other previous actions will not result in significant adverse impacts to critical elements of the human environment.

None of the alternatives violate Federal, State or local law requirements for environmental protection. There are no known inconsistencies with Federal, State or local natural resource related plans, policies or programs. The proposed action is in conformance with land use plans applicable to the area.

Adverse impacts identified are minimal. Overall natural resource values are expected to improve with implementation of the proposed action.

Decision

It is my decision to implement the Proposed Action as described in the Bully Creek Initial Riparian Enhancement Projects Environmental Assessment (OR-030-99-33).

S/Roy L. Masinton
Authorized Officer
Field Manager, Malheur Resource Area

09/30/99
Date